

Chapter 13: Mitigation Initiatives

Hurricanes and their associated hazards (high wind and surge flooding) are described in Chapter 5 and other hazards are overviewed in Chapter 6 (severe storms/tornadoes, rainfall/fresh water flooding, drought and wildland fire). For the purposes of actively pursuing damage reduction activities, the Monroe County LMS Work Group determined that it is appropriate to focus on the hazards that have relative vulnerability ranking of “high” and “moderate” (Table 13-1). Ongoing activities related to hurricane/tropical storm and flooding (administering codes and regulations, etc.) will continue. Ongoing activities related to tornadoes (monitoring and warning) and wildfire (cooperation with State services, maintaining fire suppression capabilities) will continue.

Table 13-1. Hazards: Relative Vulnerability

Hazard	Vulnerability
Hurricane/Tropical Storm	High
Flooding (rainfall ponding)	High (locally)
Tornado	Moderate
Wildfire	Moderate

13.1 Range of Mitigation Initiatives

In the State Mitigation Plan the Florida Department of Community Affairs uses six general categories or approaches to mitigation (Table 13-2). The members of the Monroe County LMS Work Group considered these categories when identifying initiatives within their jurisdictions. Each participating local government undertakes a number of these activities on an ongoing basis.

Table 13-2. Categories of Mitigation Initiatives.

<p>PREVENTIVE MEASURES keep problems from getting started or getting worse. When hazards are known and can be factored in to development decisions early in the process, risks are reduced and future property damage is minimized. Building, zoning, planning, and/or code enforcement officials usually administer these activities:</p> <ul style="list-style-type: none">• Planning and zoning• Open space preservation• Building codes and enforcement• Infrastructure design requirements
<p>PROPERTY PROTECTION measures are actions that go directly to permanently reducing risks that are present due to development that pre-dates current codes and regulations and include:</p> <ul style="list-style-type: none">• Property acquisition in floodplains• Relocation out of hazard-prone areas

Table 13-2. Categories of Mitigation Initiatives.

<ul style="list-style-type: none">• Elevation of structures in floodplains• Retrofit of structures in high wind zones
<p>EMERGENCY SERVICES MEASURES are taken immediately before or during a hazard event to minimize impacts. These measures are the responsibility of city or county emergency management staff, operators of major and critical facilities, and other local emergency service organizations and include:</p> <ul style="list-style-type: none">• Alert warning systems• Hazard/weather monitoring systems• Emergency response planning• Evacuation• Critical facilities protection• Preservation of health and safety
<p>STRUCTURAL PROJECTS are usually designed by engineers and managed and maintained by public entities. They are designed to reduce or redirect the impact of natural disasters (especially floods) away from at-risk population areas:</p> <ul style="list-style-type: none">• Levees, floodwalls, dunes and berms• Drainage diversions• Storm water management facilities
<p>NATURAL RESOURCE PROTECTION projects preserve or restore natural areas or their natural functions. Park and recreation organizations, conservation agencies or wildlife groups may implement such measures:</p> <ul style="list-style-type: none">• Wetland protection or restoration• Beach and dune protection• Erosion and sediment control
<p>PUBLIC INFORMATION PROGRAMS advise property owners, potential property owners, and others of prevalent hazards and ways to protect people and property. A public information office usually implements these activities, often with private partner support:</p> <ul style="list-style-type: none">• Flood maps and data• Public information and outreach• Technical assistance for property owners• Real estate disclosure information• Environmental education programs

13.2 Mitigation Initiatives

Elements of the Monroe County LMS Goals highlight the importance of reducing potential damage to critical facilities (public schools and public buildings, infrastructure (power, water, sewer, communications, roads and bridges), and the economy, including damage to privately owned homes and businesses. Progress is made toward those goals through implementation of ongoing actions and responsibilities of local governments as well as through initiatives undertaken explicitly to reduce future impacts.

It is important to recognize and acknowledge that Monroe County and the cities all have on-going programs and activities that contribute to disaster resistance even if those actions were not initiated in response to the Local Mitigation Strategy process. For example, every jurisdiction issues building permits and administers a floodplain management ordinance. New buildings and infrastructure must comply with current Florida Building Code and regulations which are deemed to be sufficient to minimize future damage to due hurricanes, high winds and flooding. Every jurisdiction maintains its roads, which reduces the likelihood of washout damage. Key West and Marathon pursue projects to improve drainage in areas subject to rainfall flooding.

Monroe County and the cities participate in public information and outreach, encouraging residents and visitors to be aware of the potential for hurricanes and actions to take both to reduce property damage and to facilitate safe evacuation.

Similarly, the utilities have on-going responsibilities intended to reduce the impacts of natural hazards. The Florida Keys Aqueduct Authority has contingencies for drought. The Florida Keys Electric Cooperative, the Key West City Electric System, and Florida Power and Light take steps to minimize damage to their infrastructure and distribution systems to be able to recover as quickly as possible after hurricanes.

13.3 Initiatives for Work Group as a Whole

The Monroe County LMS Work Group identified two programmatic initiatives that relate to improving its own functions and responsibilities and one initiative that involves all jurisdictions to improve NFIP data on repetitively-flooded properties (Table 13-3).

Table 13-3. High Priority Mitigation Initiatives: Work Group

Initiative 2005-001	Complete Critical Facilities Spreadsheet
Jurisdiction/Entity	Monroe County and cities of Key West, Marathon, Key Colony Beach, Layton, and Islamorada; all participating non-profit entities/utilities
Description	The Work Group determined the nature of data that, ideally, is valuable to have to help identify facilities that are expected to perform well and to identify vulnerabilities that may indicate opportunities for mitigation. The spreadsheet in Appendix C is designed to help entities collect the data. As part of the annual LMS update, participants will review and update the data to reflect changes.
Hazards	All

Table 13-3. High Priority Mitigation Initiatives: Work Group

Potential Funding Sources	Staff time
Estimated Time Frame	By December 31, 2006
Initiative 2005-002	Revise Scheme to Prioritize Initiatives
Jurisdiction/Entity	Monroe County and cities of Key West, Marathon, Key Colony Beach, Layton, and Islamorada; all participating non-profit entities/utilities
Description	The Work Group's experience with the previously-adopted process for the 2005 HMGP applications indicated a need to modify the process by which potential mitigation initiatives are submitted and, when funding becomes available, how the Work Group establishes priorities among the initiatives that proponents wish to submit for funding. At the May 24, 2005 Work Group meeting it was determined appropriate to develop a 2 or 3-step process. This initiative will complete development of the forms and scheme that will be used to prioritize initiatives when future funding becomes available (which will be inserted in Appendix D). This initiative includes revising and updating the spreadsheet included in Appendix C ("Appx_C_Mitigation Initiatives.xls")
Hazards	All
Potential Funding Sources	Staff time to participate in Work Group
Estimated Time Frame	By December 31, 2005
Initiative 2005-003	Verify and Improve Repetitive Flood Loss Data
Jurisdiction/Entity	Monroe County and cities of Key West, Marathon, Key Colony Beach, Layton, Islamorada
Description	The National Flood Insurance Program maintains records of past flood insurance claims and tracks properties that have received multiple claims (referred to as "repetitive loss" properties). These properties present likely opportunities for mitigation, such as elevation-in-place, and FEMA funding may be available to support cost-effective measures. The NFIP records date to the mid-70s and are known to contain inconsistencies. Verifying the data serves two purposes: it helps the NFIP improve its records, and it results in an accurate list of the area's most flood-prone properties. Owners of these properties may be interested in reducing their exposure and working with the communities to seek mitigation funds.
Hazards	Flooding (coastal surge and ponding)
Potential Funding Sources	Staff time for data verification
Estimated Time Frame	By December 31, 2007
Initiative 2005-004	Request FEMA staging of emergency roofing materials
Jurisdiction/Entity	Habitat for Humanity of Key West and Lower Florida Keys, Monroe County and cities of Key West, Marathon, Key Colony Beach, Layton, Islamorada
Description	Recovery activities after hurricanes have indicated that the limitations on transportation into the Keys can cause lag time getting roofing repair materials into affected areas. Because of typical weather during hurricane season, lack of emergency roofing materials means buildings that have sustained roof

Table 13-3. High Priority Mitigation Initiatives: Work Group

	damage continue to be exposed to further damage. Low income families can be particularly impacted when available supplies of emergency roofing materials are limited.
Hazards	Hurricanes & Tropical Storms
Potential Funding Sources	None; Habitat for Humanity has space in an existing facility
Estimated Time Frame	By December 31, 2005

13.4 Community-Specific Initiatives

The City of Key West determined that one programmatic initiative will be pursued (Table 13-4).

Table 13-4. High Priority Mitigation Initiatives: Key West

Initiative D-2005	Seek Reinstatement in the NFIP's Community Rating System
Jurisdiction/Entity	City of Key West
Description	With 8,345 NFIP flood insurance policies, Key West property owners will benefit if the City achieves reinstatement in the CRS (savings of 5% of current paid premium amount is \$312,000).
Hazards	Flood
Potential Funding Sources	Staff time
Estimated Time Frame	By December 31, 2006

13.5 Site-Specific Initiatives

Mitigation projects or initiatives are actions that focus on specific locations such as public buildings, public infrastructure, or privately-owned property. Examples of project initiatives that have been or are likely to be implemented in Monroe County and the cities include, but are not limited to:

- Wind retrofit of public buildings and facilities.
- Wind retrofit of private non-profit buildings and low income homes.
- Installation of storm drainage improvements.
- Floodproofing of public buildings and facilities.
- Elevation or acquisition of private homes in floodplains.

The Monroe County LMS Work Group maintains an evolving list of project initiatives (Appendix C). This list may be modified periodically upon action by the Work Group. The list has three distinct parts that result from distinct steps in the process:

- **Step One: Preliminary Identified Mitigation Initiatives** (which are placed on the list with a minimum amount of information, see Section 13.6).
- **Step Two: Prioritized Mitigation Initiatives** (which have sufficient detail that an overall ranking can be performed, see Section 13.6).
- **Step Three: Completed Mitigation Initiatives** (which have been undertaken, with or without external funding or which have been removed/dropped).

13.6 Prioritizing Mitigation Initiatives

Florida Rule 9G-22 delegates to the LMS Work Group the authority to set priorities and identify projects. DCA encourages Work Groups not only to pre-identify projects but to gather initial data to facilitate the priority setting process in part to help with more rapid consideration in the post-disaster period. Because long periods of time may elapse between initial identification of an initiative and application for funds, detailed cost estimates or engineering are not necessary for the purpose. Initiative proponents are responsible for providing information on which the prioritizations are based.

The Monroe LMS does not outline how each jurisdiction or non-profit organization decides to prioritize its own projects. It is expected that initiatives will be identified based on available hazard information, past hazard events, the number of people and types of property exposed to those hazards, and the feasibility and cost-effectiveness of the measure. Initiatives are expected to be consistent with current policies and regulations, technically feasible, likely to have high political and social acceptance, and achievable using existing authorities and staff.

The Work Group adopted a phased process for identification and prioritization of mitigation initiatives that results in the evolving list of initiatives in Appendix C. This list is maintained by Monroe County Emergency Management on behalf of the Work Group.

Step One: Preliminary Identified Mitigation Initiatives

Initiatives may be placed on the list by any eligible entity that provides minimum information. The Work Group anticipates allowing submission on a quarterly basis so that eligible entities are not constrained by an annual opportunity to identify and pursue projects and funding. To be placed on the list, the following minimum information will be required:

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- Name of owner/entity;
 - Name and location of project/building;
 - Brief description of project and need and the hazard and problem(s) it would address; and
 - Rough cost estimate based on the best available information, including a description of how the estimate was made. This estimate is explicitly not intended to be used for the benefit:cost analysis (see Step Two).

Section 13.3 identifies a high priority action for the Work Group to improve its processes. As part of that action, the information that is required to submit an initiative may change. When that action is completed, a form for submittal will be prepared and inserted in Appendix D.

Step Two: Prioritized Mitigation Initiatives

Implementation of site-specific mitigation initiative usually is dependant upon the availability of funding (see Section 13.7 for sources of funding). A project that is on the Step One list is moved to the Step Two priority list when the owner/entity is prepared to develop and submit the formal application to DCA and FEMA and when the Work Group is charged with prioritizing projects for available funding. Notices of Funding Availability may be issued annually, e.g., for FEMA's Flood Mitigation Assistance Program or the Pre-Disaster Mitigation Program. After disasters that yield Hazard Mitigation Grant Program funds, Notices of Funding Availability usually are issued within 90 days. Whether on an annual basis or post-disaster, the Work Group would be notified and eligible entities would then decide whether they are prepared to formalize initiatives that are on the Preliminary List.

Pursuant to State law (Chapter 9G-22.006) the LMS Work Group is charged with developing a prioritized list of initiatives. At any given time, priorities may change due to various factors such as recent damage, availability of non-federal cost share, or changes in priorities of the funding agency.

When a Notice of Funding Availability is anticipated or received, the LMS Coordinator will notify entities that have initiatives in the Step One list. In order to have an initiative forwarded to the funding agency, detailed data are required so that the Work Group can process and determine priorities (Step Two list). The following minimum information will be required:

- Name of owner/entity and the point of contact responsible for providing the detailed information;

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- Name and location of project/building;
 - Detailed description of project (scope of work) and need, and the hazard and problem(s) it would address;
 - Explanation of how the initiative satisfies the Mitigation Goals (see Section 4.2);
 - Number and description of the population served;
 - Project costs and a description of how those costs were estimated;
 - Description of project benefits, including how benefits can be quantified;
 - Description of economic, social, and environmental benefits;
 - Estimate of period of time the project is expect to take to complete; and
 - A statement regarding availability of the non-federal cost share.

Section 13.3 identifies a high priority action for the Work Group to improve its processes. As part of that action, the information that is required in order for an initiative to be prioritized may be augmented. When that action is completed, a form for submittal will be prepared and inserted in Appendix D. Further, when that action is completed, the prioritization method that the Work Group adopts will be formalized (e.g., the factors and weights assigned to those factors) and inserted in Appendix D.

Step Three: Completed Mitigation Initiatives

In order to maintain records that demonstrate progress towards the Mitigation Goals, the Work Group recognizes that it is important to track completed initiatives, as well as initiatives that are removed from the list. At least once a year entities that have undertaken mitigation initiatives (regardless of source of funding) will report to the Work Group.

13.7 Potential Funding for Selected Initiatives

Funding to support mitigation initiatives may be available from several sources, each with its own timing and requirements. The list in Table 13-5 is not intended to be exhaustive, but to characterize the variety of funding. The LMS Work Group will endeavor to maintain familiarity with funding sources and availability. The Florida DCA is the primary contact for notifications and processing of federal funds, especially those that derive from the U.S. Department of Homeland Security (FEMA).

Table 13-5. Potential Funding for Mitigation

Program	Fund Source Contact
<p>Hazard Mitigation Grant Program (HMGP)</p> <p>To prevent future losses of lives and property due to disasters; to implement State or local hazard mitigation plans; to enable mitigation measures to be implemented during immediate recovery from a disaster; and to provide funding for previously identified mitigation measures to benefit the disaster area. Eligible projects include:</p> <ul style="list-style-type: none"> • Property acquisition or relocation • Structural and non-structural retrofitting (e.g. elevation, storm shutters and hurricane clips) • Minor structural hazard control (e.g. culverts, floodgates, retention basins) • Localized flood control projects that are designed to protect critical facilities and are not part of a larger flood control system • Other feasible and cost-effective measures <p>Ineligible activities include:</p> <ul style="list-style-type: none"> • Major flood control projects • Engineering designs not integral to a proposed project • Feasibility and drainage studies that are not integral to a proposed project • Flood studies that are not and mapping • Response and communication equipment (e.g., warning systems, generators that are not integral to a proposed project) 	<p>Source: FEMA</p> <p>Contact: Florida Department of Community Affairs (DCA)</p>
<p>Pre-Disaster Mitigation (PDM) Competitive Grants</p> <p>The PDM program was authorized by Section §203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), as amended by Section §102 of the Disaster Mitigation Act of 2000, to assist communities to implement hazard mitigation programs designed to reduce overall risk to the population and structures before the next disaster occurs. Annual guidance is issued and may include national priorities. See HMGO for eligible activities.</p>	<p>Source: FEMA</p> <p>Contact: DCA</p>
<p>Flood Mitigation Assistance Program</p> <p>To fund cost effective measures implemented by States and communities to reduce or eliminate the long term risk of flood damage to buildings, manufactured homes, and other structures uninsurable by the National Flood Insurance Program. See flood-related activities under PDM.</p>	<p>Source: FEMA</p> <p>Contact: DCA</p>
<p>Community Development Block Grant</p> <p>The Community Development Block Grants (CDBG) provide for long-term needs, such as acquisition, rehabilitation or reconstruction of damaged properties and facilities and redevelopment of disaster-affected areas. Funds may also be used for emergency response activities, such as debris clearance and demolition, extraordinary increases in the level of necessary public services. Eligible projects include:</p> <ul style="list-style-type: none"> • Voluntary acquisition or if appropriate, elevation of storm damaged structures (can be used as match for FEMA mitigation projects in low income areas) • Relocation payments for displaced people and businesses 	<p>Source: HUD</p> <p>Contact: Community Planning and Development</p>

Table 13-5. Potential Funding for Mitigation

Program	Fund Source Contact
<ul style="list-style-type: none"> • Rehabilitation or reconstruction of residential and commercial buildings • Assistance to help people buy homes, including down payment assistance and interest rate subsidies • Improvement to public sewer and water facilities 	
Community Facilities Loan Program (10.423) To construct, enlarge, extend, or otherwise improve community facilities providing essential services to rural residents.	Source/Contact: Florida Rural Economic and Community Development
Conservation and Recreation Lands (CARL) This grant program is intended to conserve environmentally endangered lands and provide resource conservation measures for other types of lands.	Source/Contact: Florida Department of Environmental Protection Division of State Lands
Florida Communities Trust (FCT) Facilitates the purchase of lands for conservation and/or recreation purposes by local governments; helps to implement conservation, recreation, open space, and coastal elements of local comprehensive plans. The Board of Florida Communities Trust has latitude to consider innovative financing arrangement, loans, and land swaps. However, most of the Trust's funding is for land acquisition. Land acquisition projects in which matching funds are available will receive more favorable consideration, although a portion of available funds may be awarded as outright grants.	Source/Contact: Florida Department of Community Affairs, Communities Trust
Community Development Block Grants/Entitlement Grants To develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low to moderate income individuals.	Source: HUD Contact: Office of Block Grant Assistance
Community Development Block Grants/State Program To develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low to moderate income individuals.	Source: HUD Contact: Small Cities Division, Office of Block Grant Assistance
Economic Injury Disaster Loans (EIDL) To assist business concerns suffering economic injury as a result of certain presidential, Secretary of Agriculture, and/or Small Business Administration declared disasters.	Source: SBA Contact: Office of Disaster Assistance
Emergency Shelter Grants Program (ESG) To provide financial assistance to renovate or convert buildings for use as emergency shelters for the homeless. Grant funds may also be used to operate the shelter (excluding staff) and pay for certain support services.	Source/Contact: Florida Housing & Urban Development; Community Planning & Development
Physical Disaster Loans (Business) To provide loans to businesses affected by declared physical type disasters for uninsured losses; may include costs to mitigate future damage.	Source: SBA Contact: Office of Disaster Assistance
Post-Disaster Public Assistance Program To provide supplemental assistance to States, local governments, and certain private non-profit organizations to alleviate suffering and hardship resulting from major disasters or emergencies declared by the President. Costs for feasible and cost-effective mitigation can be included.	Source: FEMA Contact: DCA

Table 13-5. Potential Funding for Mitigation

Program	Fund Source Contact
Flood Plain Management Services To promote appropriate recognition of flood hazards in land and water use planning and development through the provision of flood and flood plain related data, technical services (such as floodproofing evaluations of public buildings), and guidance.	Source: U.S. Army Corps of Engineers Contact: Jacksonville District